CY 70-4

DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20591

OFFICE OF
THE CHAIRMAN

January 29, 1970

A70-4

Honorable John H. Shaffer
Administrator
Federal Aviation Administration
Department of Transportation
Washington, D. C. 20590

Dear Mr. Shaffer:

On February 5, 1969, a Gateway Aviation Co., Inc., Beechcraft Model E18S-9700 aircraft, N68V, was involved in a landing accident at La Crosse Municipal Airport, La Crosse, Wisconsin.

The air taxi flight departed O'Hare Field, Chicago, Illinois, for La Crosse, Wisconsin, with five passengers and a crew of two. Upon arrival at La Crosse, the crew was unable to extend fully the aircraft landing gear through the normal extension procedures. Emergency extension procedures were attempted and the landing gear fell free of the nacelles. The hand crank turned one turn and stopped; further rotation of the hand crank in either direction could not be accomplished and the landing gear remained in an intermediate position. The crew landed the aircraft under the above circumstances with no resultant fire or injury to the passengers or crew. The aircraft was substantially damaged.

The Board's investigation of this accident disclosed the following:

1. The left landing gear extend-retract chain assembly, P/N 404-188006, had jammed on the lower chain drive sprocket, P/N 804-188563.

2. The upper slide tube fitting (upper chain idler sprocket bracket) was found partially separated or cracked at its attachment point to the slide tube. The separation or crack occurred along the edge of a weld which ran parallel to the slide tube assembly and measured approximately 2 inches in length. Examination of the forward one-third of the metal separation area revealed surface indications typical of a failure in fatigue.

3. The upper chain idler sprocket bearing, which is a prelubricated sealed type bearing, offered extremely high resistance to rotation. The bearing grease covers were removed and the lubricant was found hard and dry, similar to grains of sand.

The Board is of the opinion that the fatigue failure found to have occurred in the upper slide tube fitting was most probably caused by higher-than-normal loads being imposed on the fitting over an extended period of time, due to the extremely high resistance to rotation of the sealed bearing. The partial separation of the slide tube fitting allowed the extend-retract chain to become slack enough to jam on the lower drive sprocket. The jammed chain and sprocket prevented the landing gear from being extended or retracted from the intermediate position.

In light of the foregoing, the Board recommends the following:

1. That appropriate action be taken to require that all Beechcraft Model 18 aircraft landing gear assemblies be inspected for the presence of fatigue cracks on the upper slide tube fitting in the area of its attachment to the slide tube.

2. That the upper chain idler sprocket bearings be checked for resistance to rotation and, if necessary, cleaned or replaced.

3. That recurrent inspections be required until suitable corrective modifications are made.

Our staff will be available for any assistance it might be able to give you in this matter.

Sincerely yours,

John H. Reed
Chairman